

WHAT IS CLAIMED IS:

1. A data distribution satellite communication system comprising a communication satellite and a plurality of satellite communication terminals enabled to receive a signal from said communication satellite, said data distribution satellite communication system providing from said communication satellite to said plurality of satellite communication terminals with distribution business for a data signal in a broadcasting fashion, said data distribution satellite communication system comprising:

a satellite earth station for carrying out a principal communication via said communication satellite;

a data distribution center, connected to said satellite earth station, for distributing said data signal to said communication satellite; and

return communicating means for enabling said data distributing center to receive a data request signal from said satellite communication terminals,

said data request signal including a code indicative of an emergency level of data distribution, whereby it is possible to flexibly distribute a lot of information in accordance with requests from a number of users at a low cost by the use of instantaneousness, a wide-area characteristic, and a broadcasting characteristic of satellite communications.

2. A data distribution satellite communication system as claimed in claim 1, wherein said date request signal has, as said emergency level of said data distribution, a class

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indicative of instant, within ten minutes, within thirty minutes, within one hour, within six hours, within one day, within one week, a periodic distribution, and so on.

3. A data distribution satellite communication system as claimed in claim 1, wherein said data distribution satellite communication system comprises, as said return communicating means, ground communicating means using a ground communication network for each of the satellite communication terminals having no transmitting function to said communication satellite.

4. A data distribution satellite communication system as claimed in claim 1, wherein said satellite earth station comprises, for providing said return communicating means to each of the satellite communication terminals having a transmitting function to said communication satellite, satellite communicating means for receiving, as a received signal, the data request signal from said satellite communication terminal communicated via said communication satellite and means for transferring said received signal to said data distribution center.

5. A data distribution satellite communication system as claimed in claim 2, when said emergency level of said data distribution indicates the instant, said data distribution center comprising instant data distributing means for transmitting, via said satellite earth station and said communication satellite, a data signal requested by said data request signal by preparing to a signal format including an address of a request source as soon as possible.

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6. A data distribution satellite communication system as claimed in claim 2, when said emergency level of said data distribution of said satellite communication terminal serving as a request source indicates no instant or the periodic distribution, said data distribution center comprising means for preparing a reservation signal including a distribution time instant as well as a reservation number to transmit said reservation signal to said request source via said satellite earth station and said communication satellite, and

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the satellite communication terminal of said request source comprising means for receiving distribution data including said reservation number as an address at said distribution time instant.

7. A data distribution satellite communication system as claimed in claim 1, wherein said data distribution center comprises an electronic library means for storing a broad range of information for meeting a demand in users of said satellite communication terminals in an electronic form, said electronic library means establishing a home page indicative of the broad range of information on the Internet to submit retrieval of said users, said electronic library means distributing information requested in accordance with a data request of said users.

8. A satellite communication educational institution comprising:

a communication satellite;

a plurality of satellite communication terminals each enabling to receive a signal from said communication satellite;

a satellite earth station for carrying out a principal communication via said communication satellite; and

a data distribution center connected to said satellite earth station by a communication channel,

said data distribution center comprising an electronic library for storing collected information in an electronic form, said electronic library presenting stored contents to users of said satellite communication terminals to submit retrieval of said users, said electronic library supplying information requested in accordance with a data request signal from said users,

said data request signal including a code indicative of  
an emergency level of data distribution.

9. A satellite communication educational institution as claimed in claim 8, wherein further comprises a ground communication network for connecting said data distribution center and said plurality of satellite communication terminals.

10. A satellite communication educational institution as claimed in claim 8, wherein further comprises a data communication network for connecting said data distribution center and a database for information collection.

11. A method of distributing data in accordance with requests from a plurality of users, said method comprising the steps of:

storing information in an electronic form to publish a list of its contents on a home page of a data distribution center;

connecting each of said users with the home page of said data distribution center to retrieve available information;

transmitting, in said users, a data request signal to said data distribution center if there is information desired on the basis of a result of retrieval, said data request signal designating an allowable waiting time interval until data is distributed; and

distributing, in said data distribution center, data requested by said data request signal to said plurality of users via a communication satellite within said allowable waiting time interval designated by said data request signal.

12. A method as claimed in claimed 11, wherein said allowable waiting time interval includes instant, when said allowable waiting time interval designated by said data request signal is instant, said distributing step comprising a step of distributing, in said data distribution center, data requested by said data request signal via said communication satellite as soon as possible.

13. A method as claimed in claimed 11, wherein said allowable waiting time interval includes instant and other time intervals other than the instant, when said allowable waiting time interval designated by said data request signal is not instant, said distributing step comprising the sub-steps of:

returning, in said date distribution center, a reservation signal to subscriber's terminals for said users via said communication satellite, said reservation signal including a request source's ID, a group address, and a distribution scheduled time instant;

setting up, in said subscriber's terminals receiving said reservation signal, the group address and the distribution

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scheduled time instant assigned to its own satellite reception equipment to put into a reception waiting state;

returning, in said users, a reservation confirmation signal to said data distribution center;

distributing, in said data distribution center receiving  
said reservation confirmation signal, a decipher key  
distribution signal to said users, said decipher key  
distribution signal including the request source's ID, the group  
address, and a data decipher key; and

broadcasting, in said data distribution center, data with  
said group address via said communication satellite at said  
distribution scheduled time instant.

14. A method as claimed in claim 13, wherein further comprises the steps of:

receiving, in each of said subscriber's terminals, data including the group address assigned to its own station as received data at a time instant designated;

deciphering, in each of said subscriber's terminals, said received data using said data decipher key to produce deciphered data; and

storing, in each of said subscriber's terminals, said  
deciphered data in a memory thereof.

15. A method as claimed in claim 14, wherein said step for returning said reservation signal comprises the sub-steps of:

when said allowable waiting time interval designated by  
said data request signal is within a predetermined time interval,  
checking, in said date distribution center, whether or not

reservation for the same data is already present;

when said reservation is absent, reserving, in said data distribution center, distribution for said data in question after said predetermined time interval is elapsed, preparing said reservation signal by selecting a new group address to return aid reservation signal to said users via said communication satellite; and

when said reservation is already present, returning, in said data distribution center, said reservation signal including its scheduled time instant and the group address to said users via said communication satellite.

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16. A data distribution system comprising:  
a communication satellite;  
a plurality of satellite communication terminals for enabling to receive a signal from said communication satellite;  
a satellite earth station for carrying out a principal communication via said communication satellite;  
a data distribution center connected to said satellite earth station by a communication channel; and  
a data communication network for connecting said data distribution center and a database for information collection;

said data distribution center comprising an electronic library for storing collected information in an electronic form, said electronic library presenting stored contents to users of said satellite communication terminals to submit retrieval of said users, said electronic library supplying information requested in accordance with a data request signal from said users,

each satellite communication terminal including means for transmitting a data request signal with a time limit to said data distribution center,

said date distribution center comprising means for distributing, in response to the date request signal from each satellite communication terminal, desired data to said satellite communication terminals via said satellite earth station and said communication satellite within the time designated.

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17. A date distribution system as claimed in claim 16, wherein further comprises a ground communication network for connecting said data distribution center with each satellite communication terminal.

18. A date distribution system as claimed in claim 16, wherein said data communication network is the Internet.

*Jane 11* 19. A data distribution method in a date distribution system comprising a communication satellite, a plurality of satellite communication terminals for enabling to receive a signal from said communication satellite, a satellite earth station for carrying out a principal communication via said communication satellite, a data distribution center for connecting said satellite earth station by a communication channel, and a date communication network for connecting said data distribution center and a database for information collection, said data distribution center comprising an electronic library for storing collected information in an electronic form, said electronic library presenting stored contents to users of said satellite communication terminals to submit retrieval of said users, said electronic library

supplying information requested in accordance with a data request signal from said users, said data distribution method comprising the steps of:

transmitting, in each satellite communication terminal, a data request signal with a time limit to said data distribution center; and

distributing, in said data distribution center, in response to the data request signal from each satellite communication terminal, desired data to the plurality of satellite communication terminals via said satellite earth station and said communication satellite within the time designated.

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